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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/406,445	09/27/1999	FREDERICK H. BARKER	OT-4551	1618

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OTIS ELEVATOR COMPANY
INTELLECTUAL PROPERTY DEPARTMENT
10 FARM SPRINGS
FARMINGTON, CT 06032

EXAMINER

TRAN, THUY VAN

ART UNIT	PAPER NUMBER
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3652

DATE MAILED: 06/17/2002

13

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
09/406,445

Applicant(s)
Barker et al.

Examiner
Thuy V. Tran

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3652



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Mar 29, 2002.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 15-34 is/are pending in the application.
- 4a) Of the above, claim(s) 22 and 32 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 15-21, 23-31, 33, and 34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 6) ☐ Other:

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DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 25-31, 33 and 34 are rejected under 35 U.S.C. 112, first paragraph, as based on a disclosure which is not enabling. "Concrete guide rails" critical or essential to the practice of the invention, but not included in the claim(s) is not enabled by the disclosure. See *In re Mayhew*, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976).

In page 4, line 18- page 5, line 2, Applicants disclose that a 16,000 lbs force is sufficient to stop a car with total hanging weight of about 8,000 lbs, assuming that a relative coefficient of friction is 1.0. A pressure of 50 psi or less is desirable to avoid damaging the concrete guide rail. Thus, in order to design a safe braking system, the size of the friction surface and shape of the wedges are based on two critical elements that are the relative coefficient of friction between the friction surface and the guide rail, and a maximum allowable pressure with respect to the material of a guide rail. Thus, claims which do not recite a concrete guide rail in combination with "the friction surface is sized and the wedge is shaped" so that an optimal pressure, namely 50 psi or less, can be determined are invalid under the written description requirement of 35 U.S.C. 112 because the disclosure, including original claims, do not describe a friction surface of vulcanized

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rubber (or other material similar to an automobile tire) having a coefficient of friction of at least approximately 1.0 relative to any non-metallic guide rail other than a concrete guide rail, nor any non-metallic guide rail may sustain a maximum pressure of 50 psi.

In page 4, line 4 of the specification, applicant discloses that "rails are preferably constructed of a high compression strength material such as concrete". And further in page 5, lines 9-14, "The friction surface 24 is ... such as vulcanized rubber (or other material) similar to an automobile tire. The material preferably will provide a coefficient of about 1.0. The preferably higher coefficient of friction available in friction surface 24 allows a lower pressure to be used against concrete rail". Thus, claims which do not recite a concrete guide rail in combination with a friction surface in order to provide "a relative coefficient of friction of at least approximately 1.0" are invalid under the written description requirement of 35 U.S.C. 112 because the disclosure, including original claims, do not describe a friction surface of vulcanized rubber (or other material similar to an automobile tire) having a coefficient of friction of at least approximately 1.0 relative to any non-metallic guide rail other than a concrete guide rail.

Claim Rejections - 35 USC § 103

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
4. Claims 15-20, 23, 25-30 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over DE 2,054,936 in view of GB 2,190,356.

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The claims' preamble have set forth "a guide rail safety device" as a subcombination. However, there are positive recital of structure indicating that a combination of "a guide rail safety device" and a "non-metallic guide rail formed of concrete" is being claimed, e.g., in claim 15, line 8, "the friction surface is wedged against the non-metallic guide rail", and further in lines 11-15, "when urged by the horizontal locator into contact with the non-metallic guide rail, the friction surface is wedged against the non-metallic guide rail with a pressure of not more than approximately 50 psi on the non-metallic guide rail, arresting the motion of the elevator car". Accordingly, claims 15-21, 23 and 24 will be examined as "a guide rail safety device" in combination with "a non-metallic guide rail formed of concrete", and claims 25-31, 33 and 34 will be examined as "a guide rail safety device" in combination with "a non-metallic guide rail".

DE '639 discloses an elevator system comprising a plurality of non-metallic guide rails formed of concrete 5. DE '639 does not disclose a guide rail safety device.

GB '356 discloses a guide rail safety device comprising a wedge 9, Figure 1-5, disposed in a housing, the wedge having a friction surface 28 aligned for contact with a guide rail 30, horizontal locators 15 for engaging the wedge and urging the friction surface into contact with the guide rail, an actuator for triggering urging of the friction surface by the horizontal locators. GB '356 also discloses a formula for calculating a friction force based on the variation of spring force (F), shaped of the wedge and a desired coefficient of friction between two surfaces.

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It would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilized a guide rail safety device for the elevator system of DE '639 as taught by GB '356 in order to provide a self-regulating safety brake for the elevator system.

The modified elevator system of DE '639 discloses all the claimed limitations except for having the friction surface applying a pressure of not more than approximately 50 psi on the non-metallic guide rail or having a relative coefficient of friction of at least 1.0 between the friction surface and the non-metallic guide rail. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilized the formula disclosed by GB '356 to have at least one of the pressure of not more than 50 psi and the relative coefficient of friction of at least 1.0, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art.

5. Claims 21 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over DE '639 in view of GB '356 as applied to claims 15 and 25, respectively above, and further in view of Kopman et al. 5,531,295.

The modified elevator system of DE '639 discloses all the claimed limitations except for having a vulcanized rubber friction surface. Kopman discloses a vulcanized rubber friction surface 33.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have further utilized a friction surface formed of vulcanized rubber for the safety

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device of DE '639 as disclosed by Kopman et al. '295 in order to provide a higher frictional surface.

6. Claims 24 and 34 (as best understood) are rejected under 35 U.S.C. 103(a) as being unpatentable over DE '936 in view of GB '356 as applied to claims 15 and 25, respectively above, and further in view of Pearson 5,065,845.

The modified elevator system of DE '936 discloses all the claimed limitations except for having a bidirectional safety device.

Pearson '845 discloses a bidirectional safety device in order to stop the car in response to overspeed in both downward and upward directions.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have further modified the safety device of DE '639 to include a bidirectional safety device as taught by Pearson in order to stop the elevator car in response to overspeed in both downward and upward directions.

Response to Arguments

7. Applicant's arguments filed Mar 29, 2002 have been fully considered but they are not persuasive.

Applicants' argument with regard to the rejection of claim 15 under 35 U.S.C. 112, 1st paragraph is moot in view of the amendment.

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With regard to claim 25, Applicants argue on page 4, third paragraph that “the specification indicates that the rails are *preferably* constructed of a high compression strength material such as concrete, nowhere does the specification indicate that concrete is required. The value of the specified relative coefficient of friction pertains to any frangible, non-metallic guide rail.” Applicants are correct that nowhere does the specification indicate that concrete is required. However, the optimum pressure (50 psi) can be applied on the guide rails are based on the characteristics of concrete. Further, if the concrete is not critical, then the claimed invention has no novelty because one having ordinary skill in the art would know how to achieve a maximum allowable pressure applied to a given material by trial and error.

With respect to DE ‘936 reference, Applicants argue that reference numeral “5” is not guide rails. One having ordinary skill in the art would recognized that ribs 5 are guide rails.

In response to Applicants’ remark that it is not understood how would it is obvious to derive from a friction force formula to a pressure. The pressure equals force (spring force) over area (contact surface).

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO**

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MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thuy v. Tran whose telephone number is (703) 308-2558.



EILEEN D. LILLIS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600

TVT (TVT)

June 16, 2002